

FIG. 3

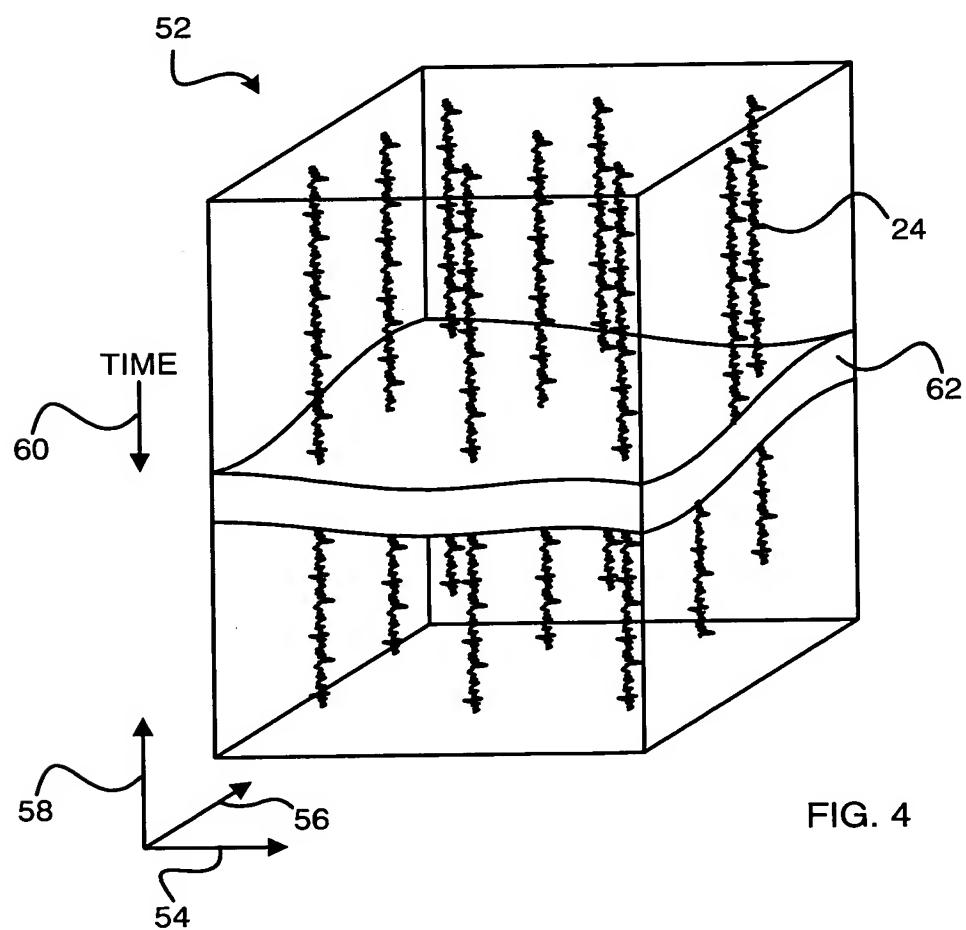


FIG. 4

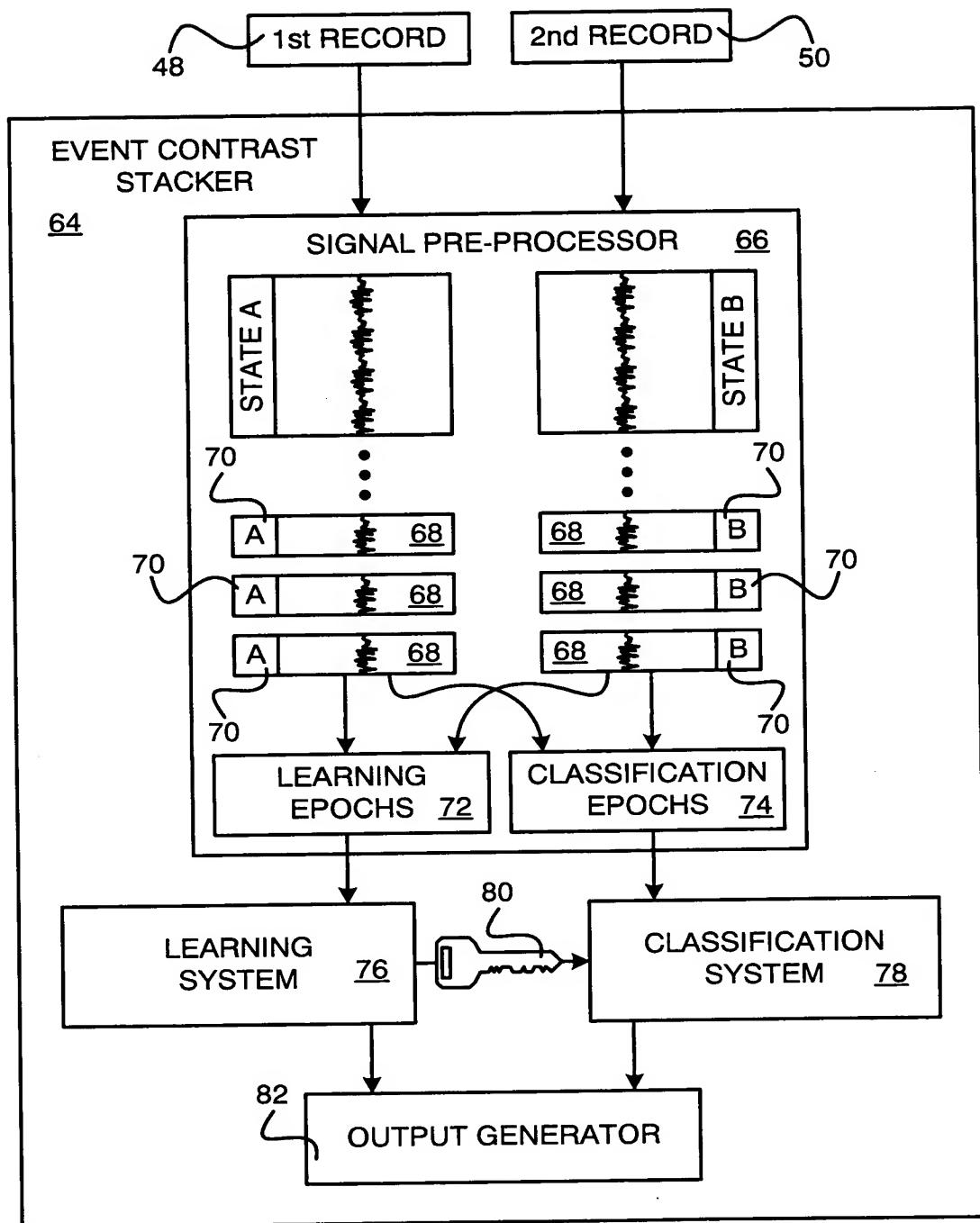


FIG. 5

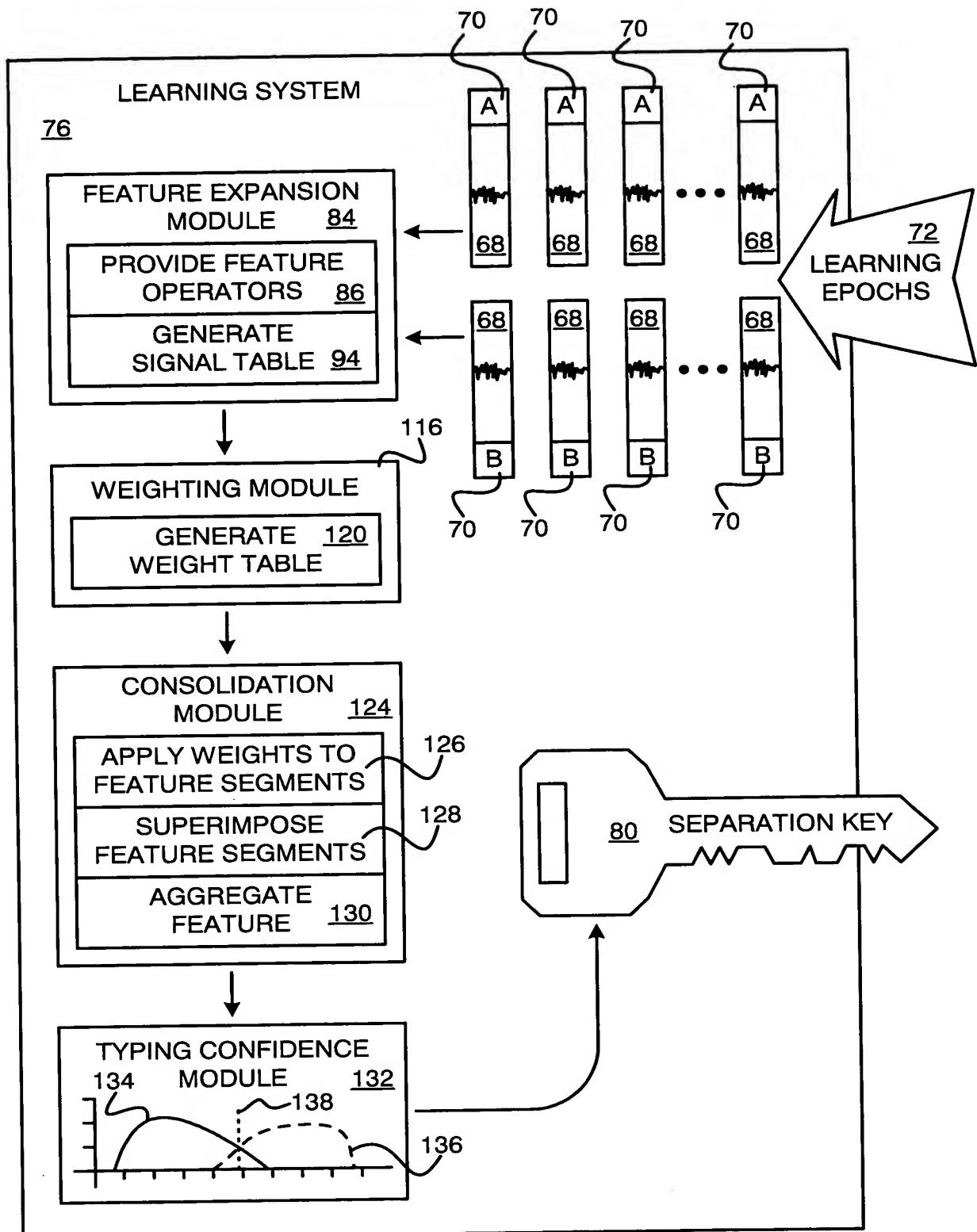


FIG. 6

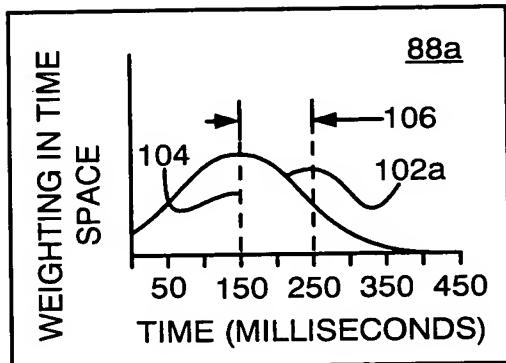


FIG. 7

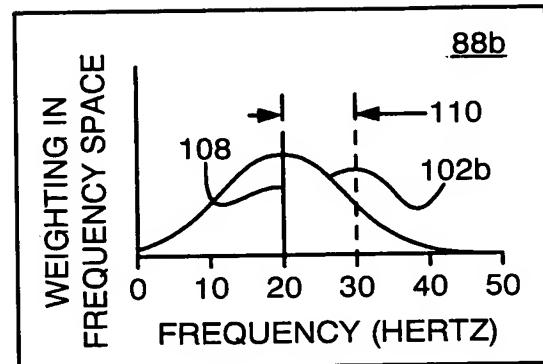


FIG. 8

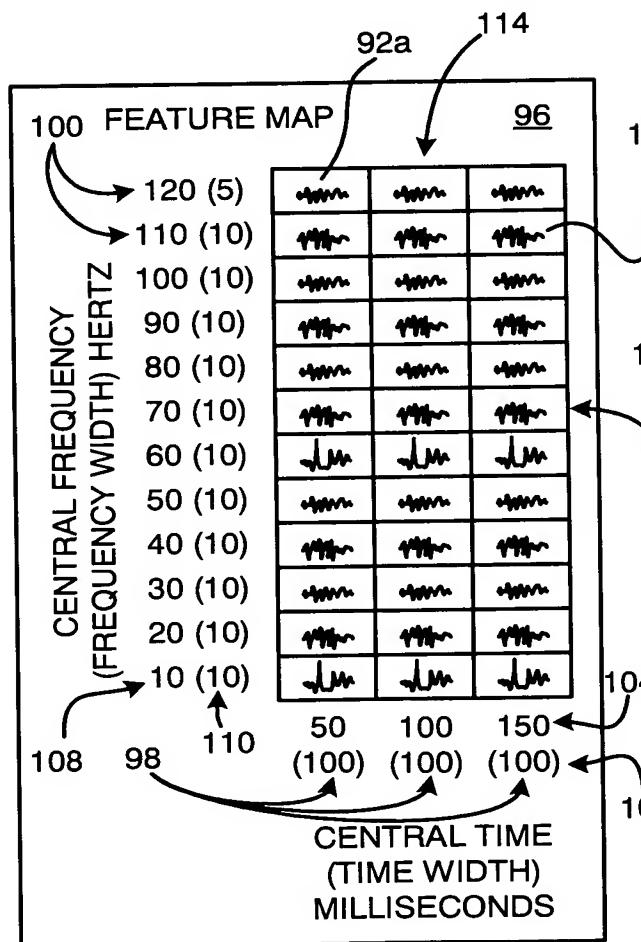
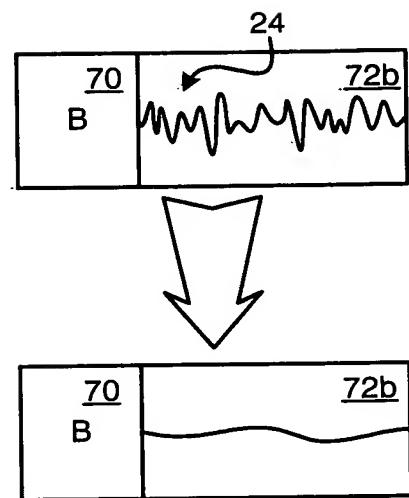
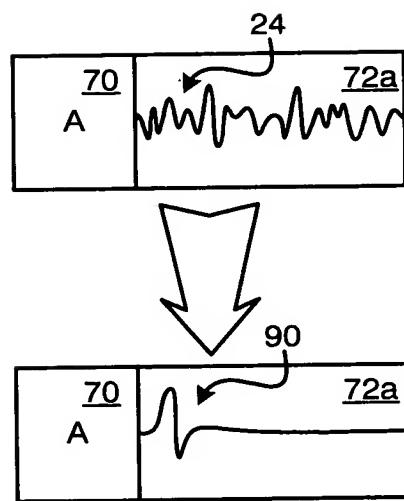


FIG. 9

WEIGHTING TABLE <u>118</u>		
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
-0.04	-0.04	0.04
0.03	0.03	0.05
0.00	-0.05	0.04
0.03	-0.06	0.11
0.01	0.01	-0.09
-0.14	0.19	-0.03
0.29	-0.47	0.18
-0.33	0.55	-0.24
0.15	-0.25	0.12

FIG. 10

114
110
108
98



SEPARATION KEY

100	120 (5)	0.00	0.00	0.00
100	110 (10)	0.00	0.00	0.00
100	100 (10)	0.00	0.00	0.00
90	90 (10)	-0.04	-0.04	0.04
80	80 (10)	0.03	0.03	0.05
70	70 (10)	0.00	-0.05	0.04
60	60 (10)	0.03	-0.06	0.11
50	50 (10)	0.01	0.01	-0.09
40	40 (10)	-0.14	0.19	-0.03
30	30 (10)	0.29	-0.47	0.18
20	20 (10)	-0.33	0.55	-0.24
10	10 (10)	0.15	-0.25	0.12

100
120 (5)
110 (10)
100 (10)
90 (10)
80 (10)
70 (10)
60 (10)
50 (10)
40 (10)
30 (10)
20 (10)
10 (10)
108
98
110
50 (100)
100 (100)
150 (100)
104
106
122

CENTRAL FREQUENCY (FREQUENCY WIDTH) HERTZ

CENTRAL TIME (TIME WIDTH) MILLISECONDS

OPTIMAL THRESHOLD VALUE 138
SUPERPOSITION PROCEDURE 128
AGGREGATION PROCEDURE 130

FIG. 13

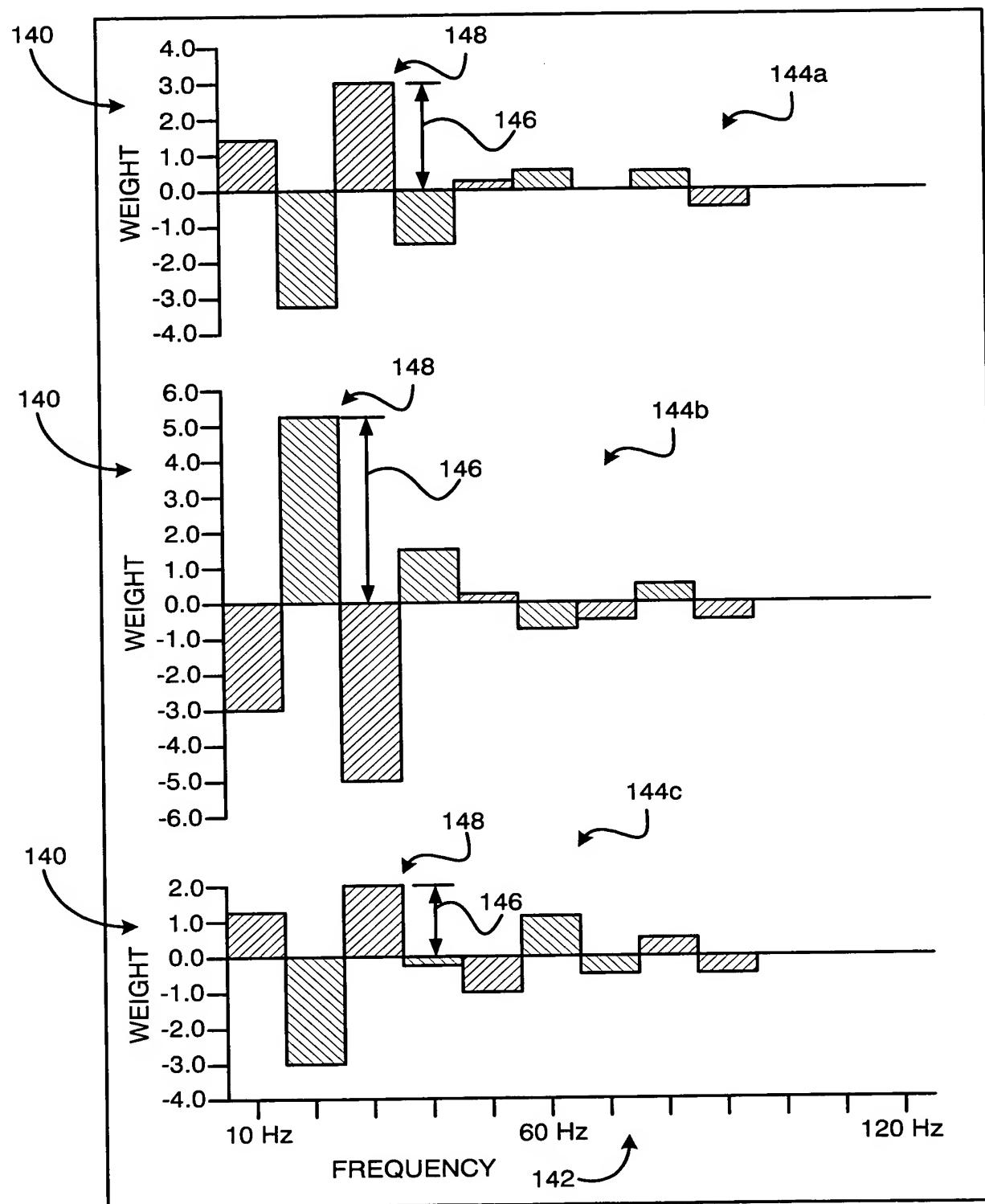
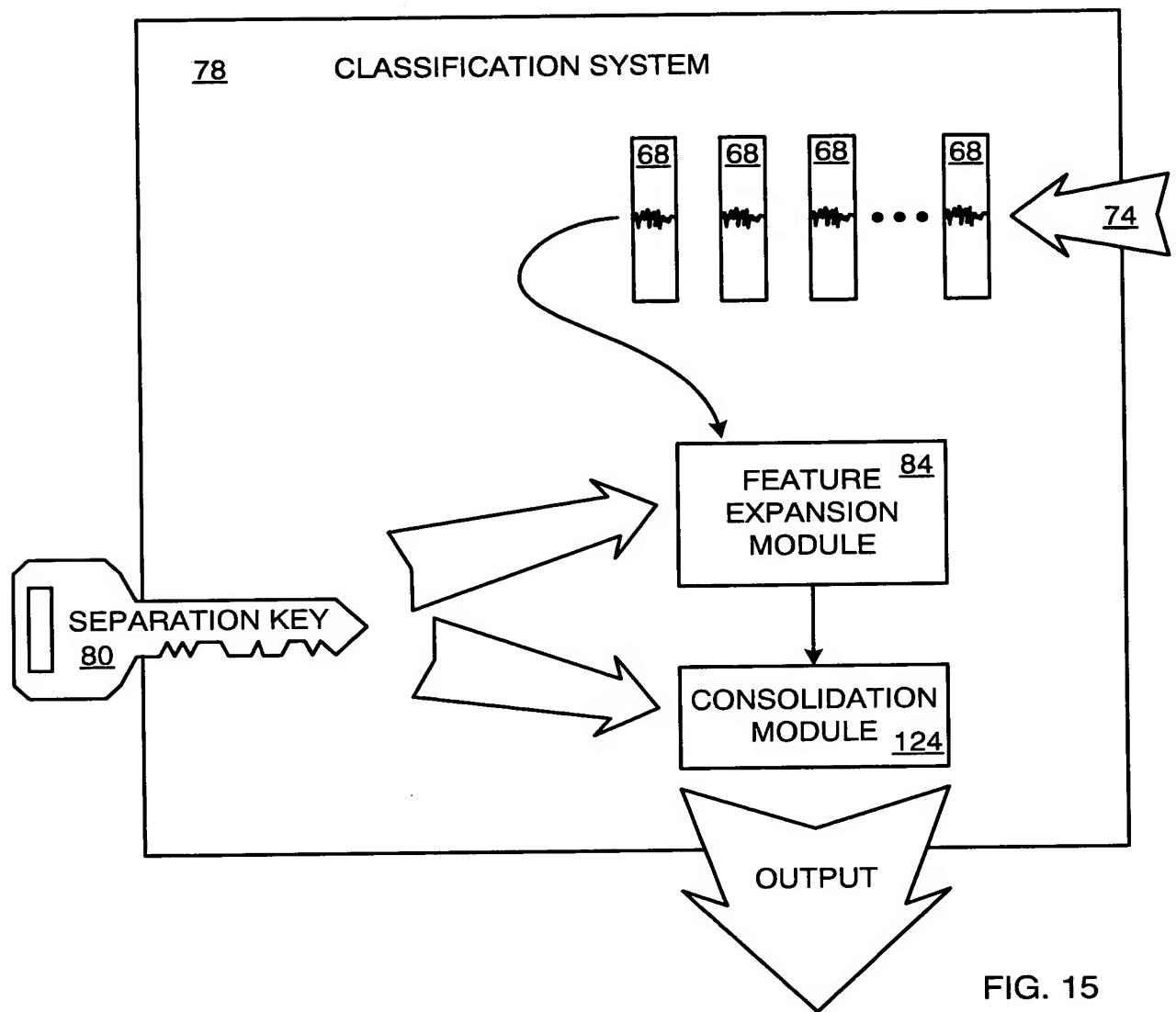


FIG. 14



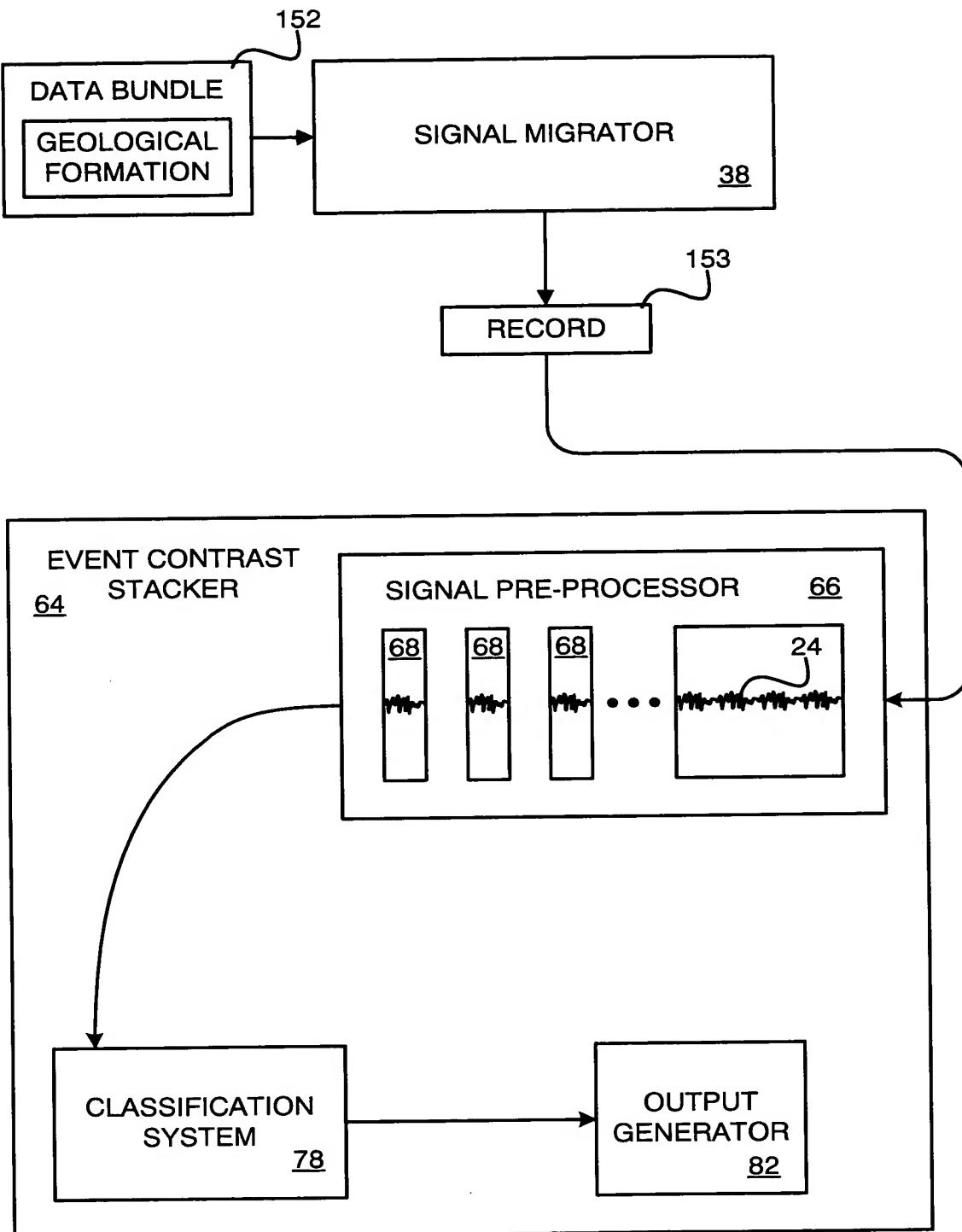


FIG. 16

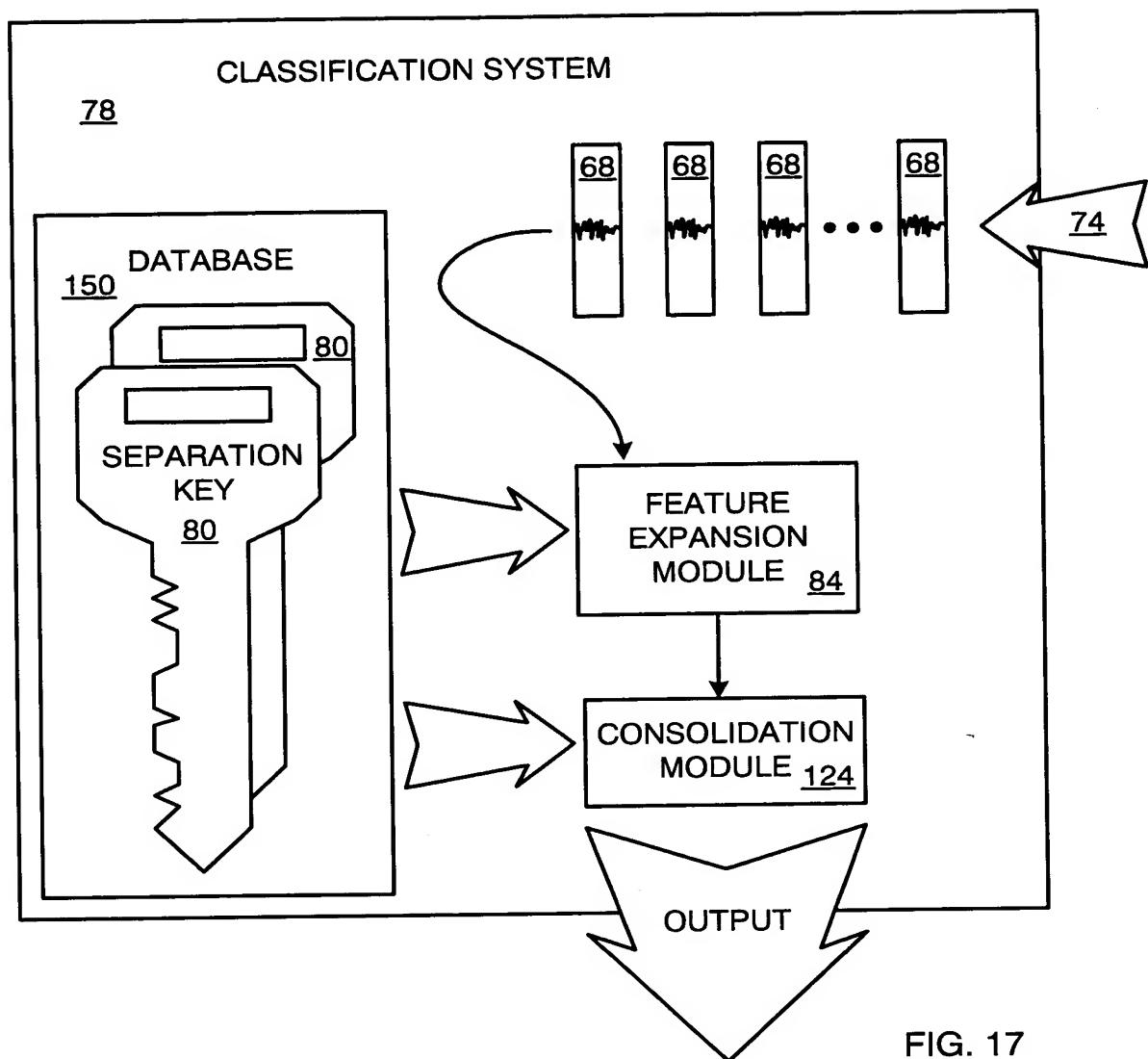


FIG. 17

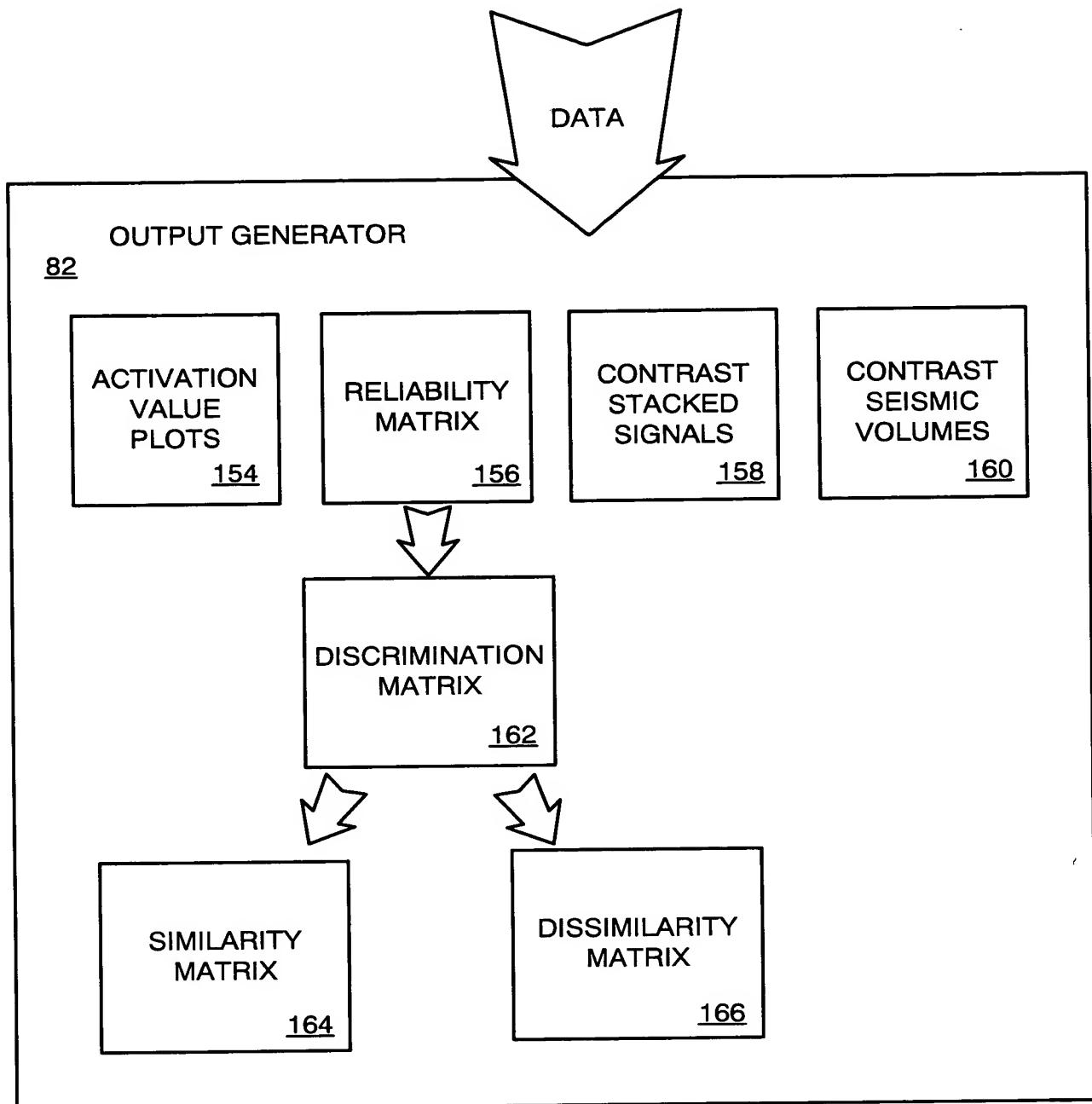


FIG. 18

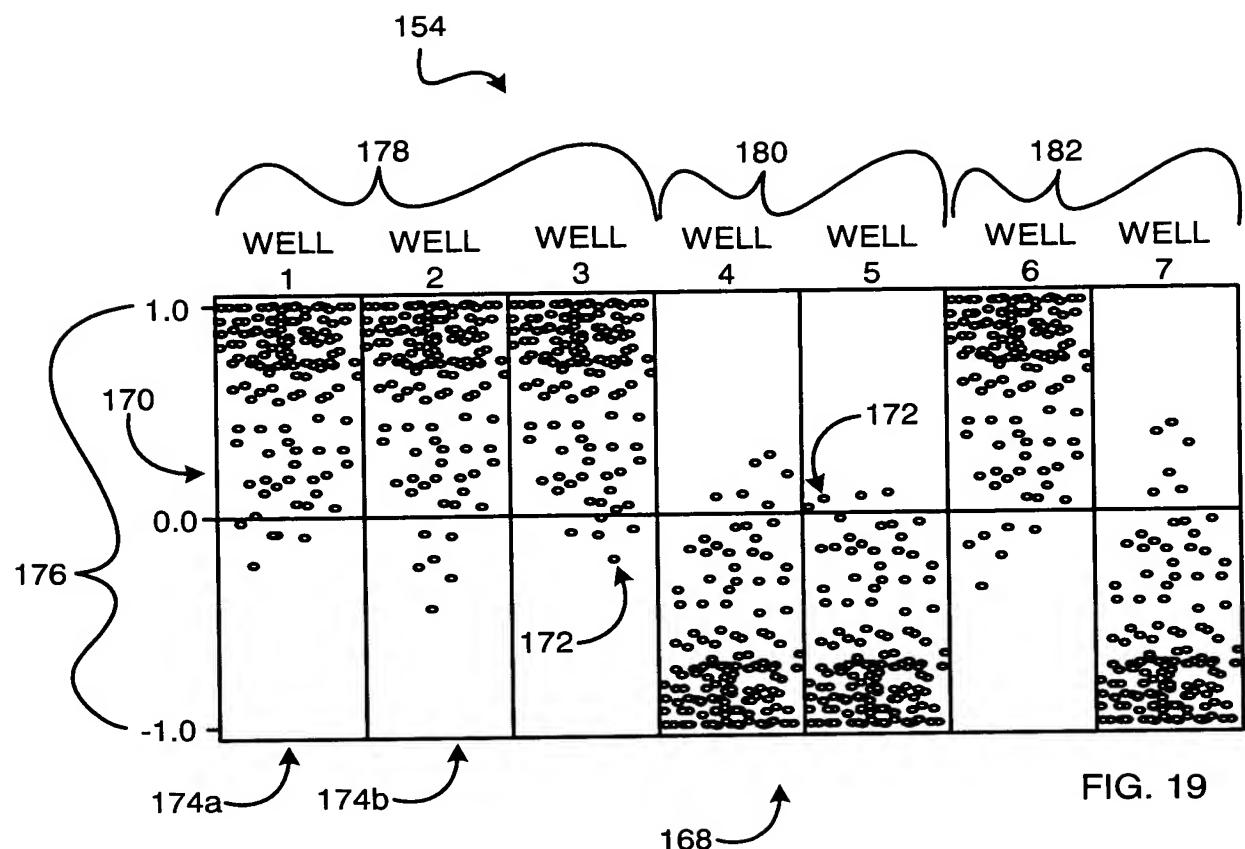


FIG. 19

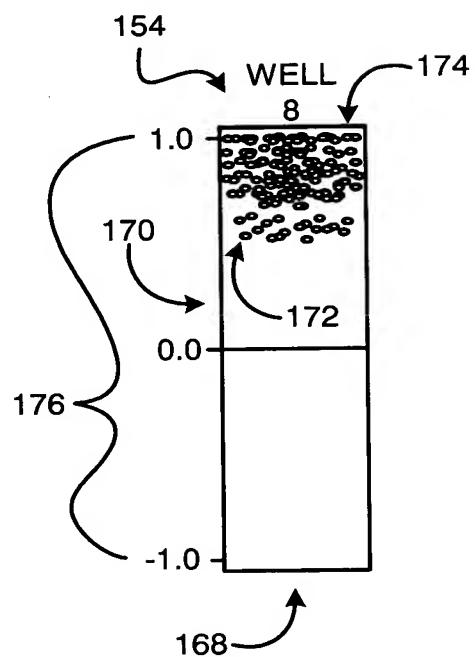


FIG. 20

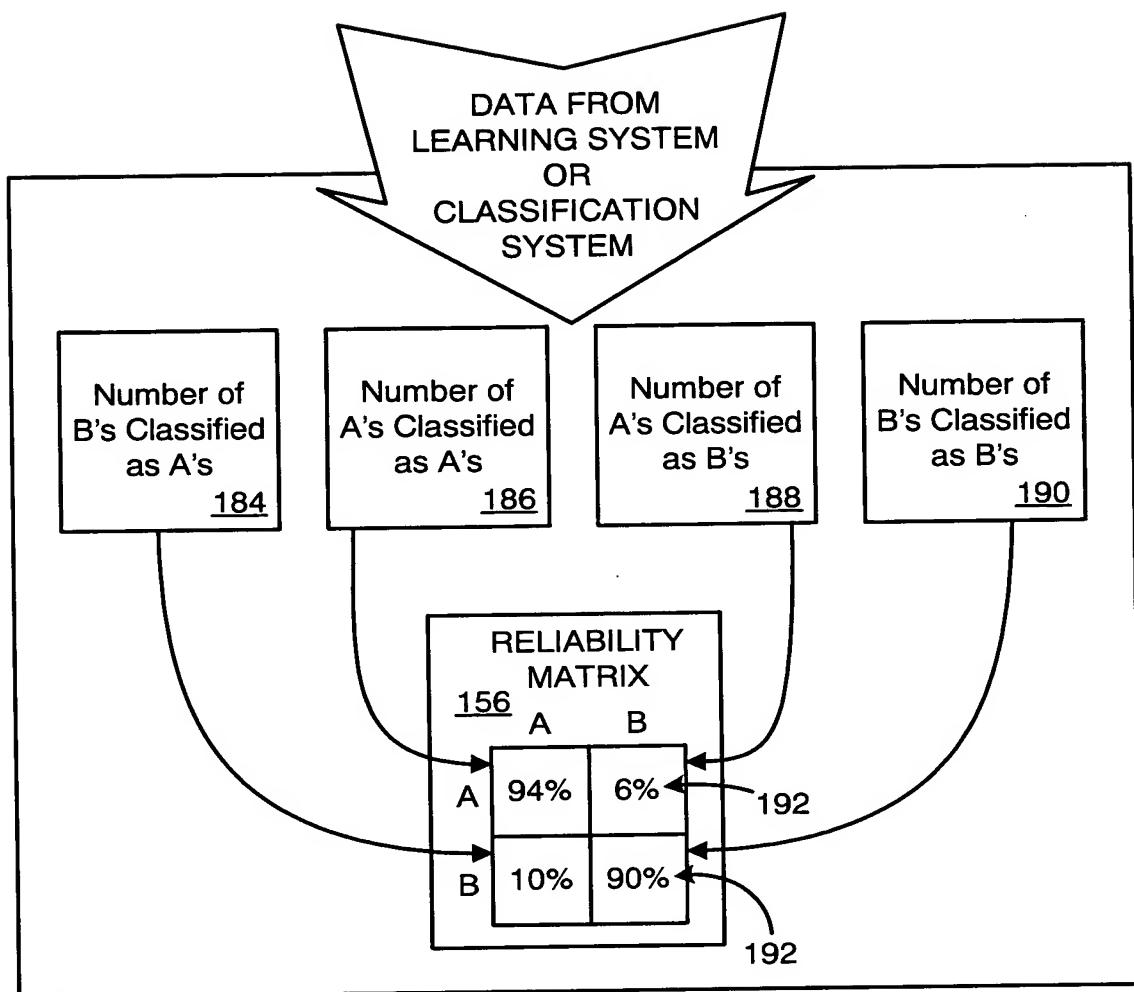


FIG. 21

RELIABILITY MATRICES

A A	
A	49% 51%
A	48% 52%

$$\frac{AA + AA}{2} = \frac{.49 + .52}{2}$$

A B	
A	88% 12%
B	10% 90%

$$\frac{AA + BB}{2} = \frac{.88 + .90}{2}$$

A C	
A	75% 25%
C	20% 80%

$$\frac{AA + CC}{2} = \frac{.75 + .80}{2}$$

A N	
A	92% 8%
N	5% 95%

$$\frac{AA + NN}{2} = \frac{.92 + .95}{2}$$

DISCRIMINATION MATRIX

A	B	C	N	
49%	89%	78%	94%	194
89%	52%	92%	...	87%
78%	92%	50%	91%	194
...	...	200
94%	87%	91%	...	51%

162

N

$$\frac{AA + NN}{2} = \frac{.92 + .95}{2}$$

196 198

FIG. 22

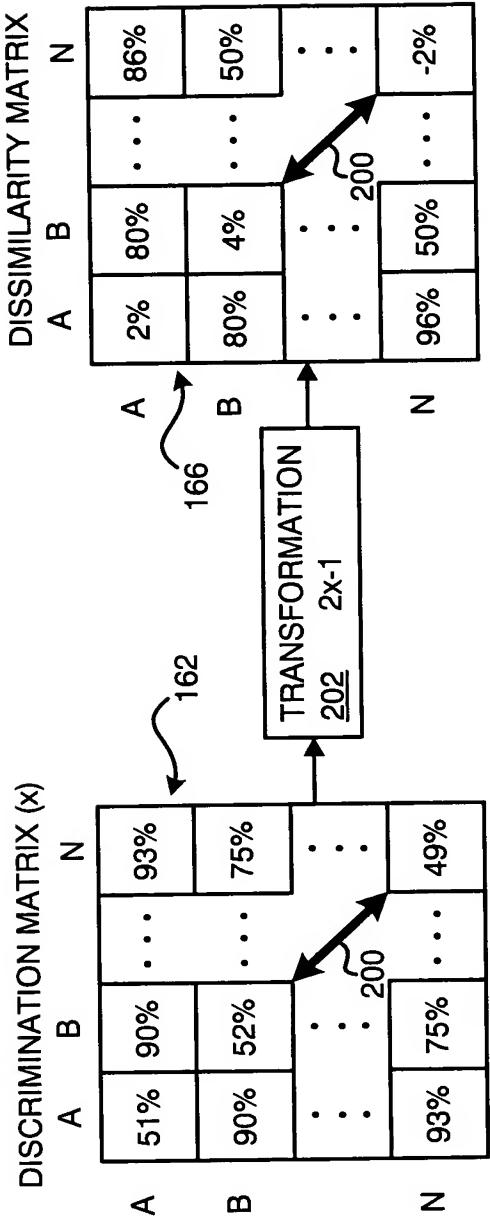


FIG. 23

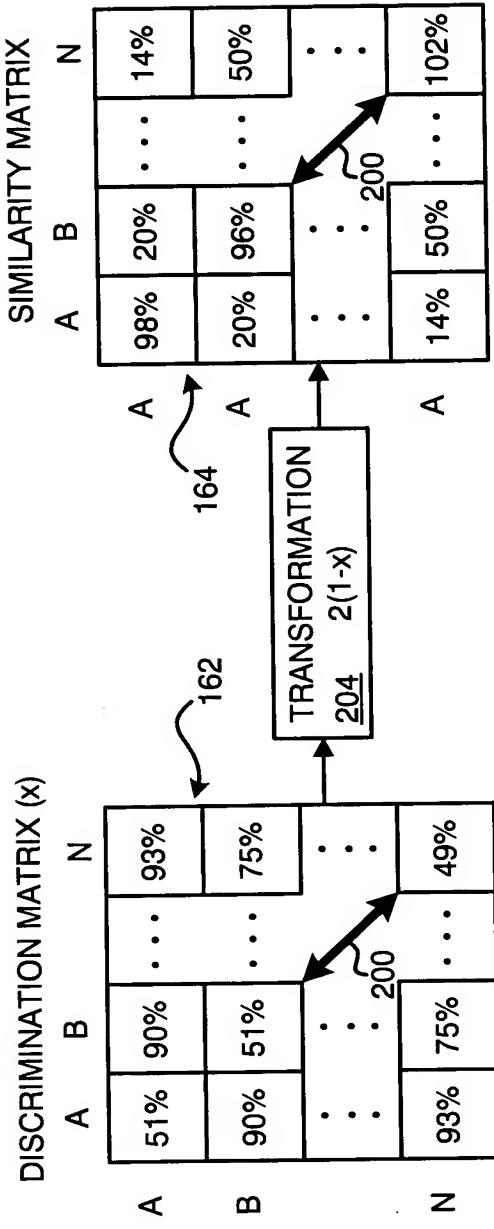


FIG. 24

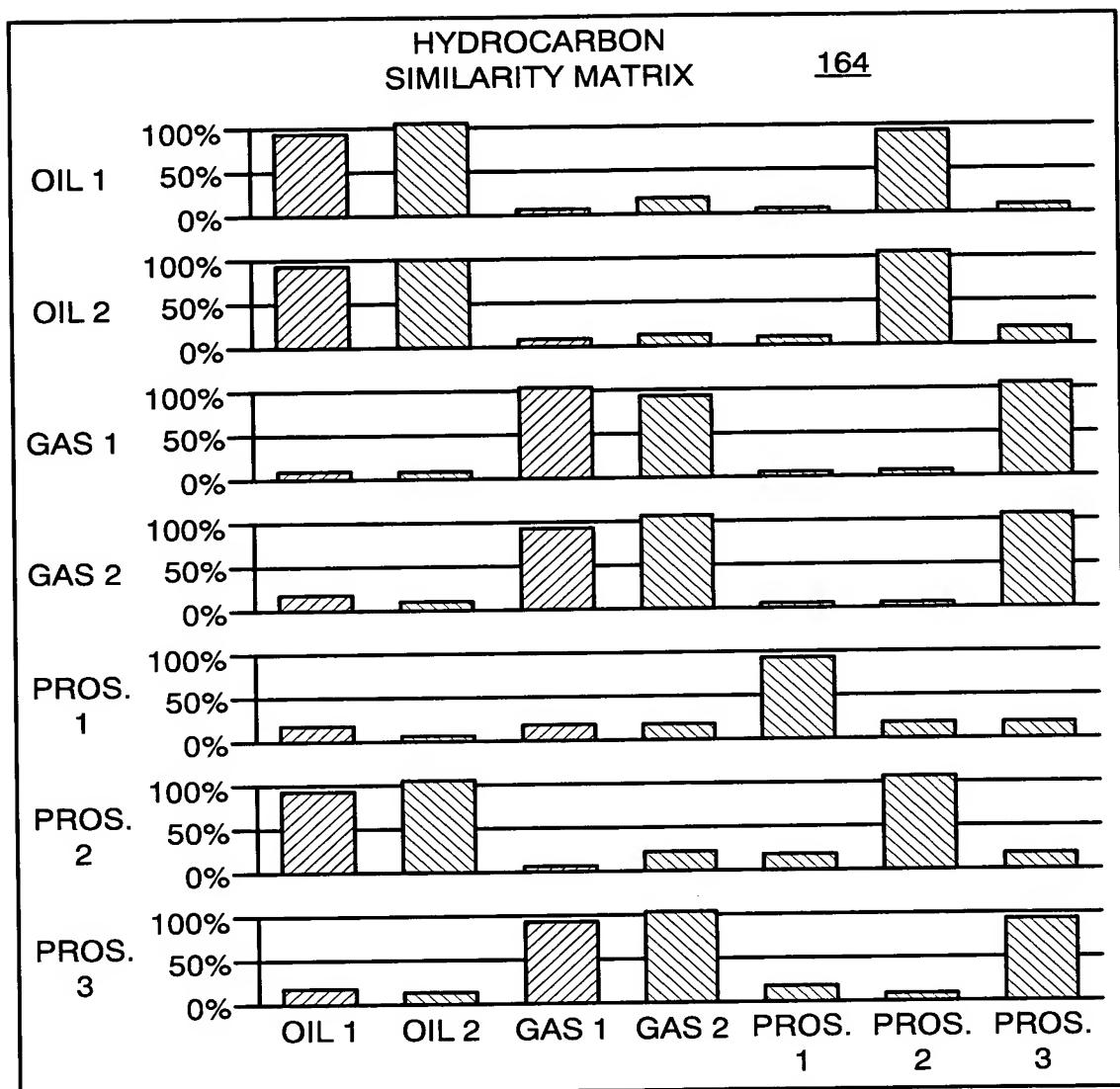


FIG. 25

FIG. 26

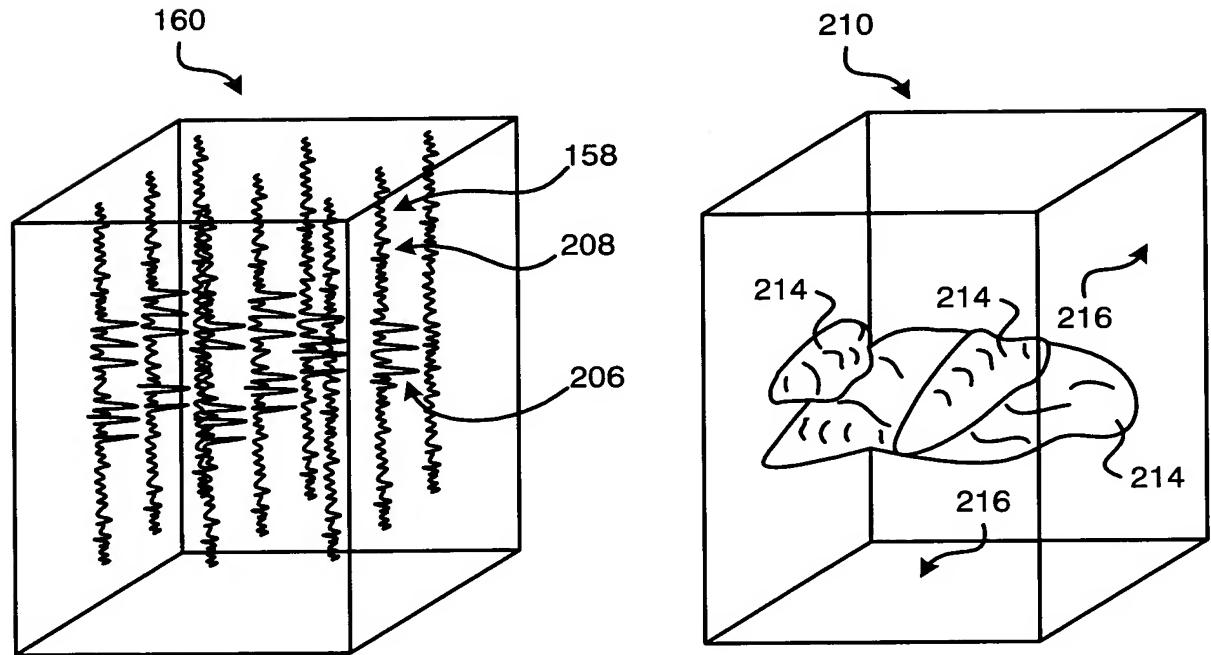
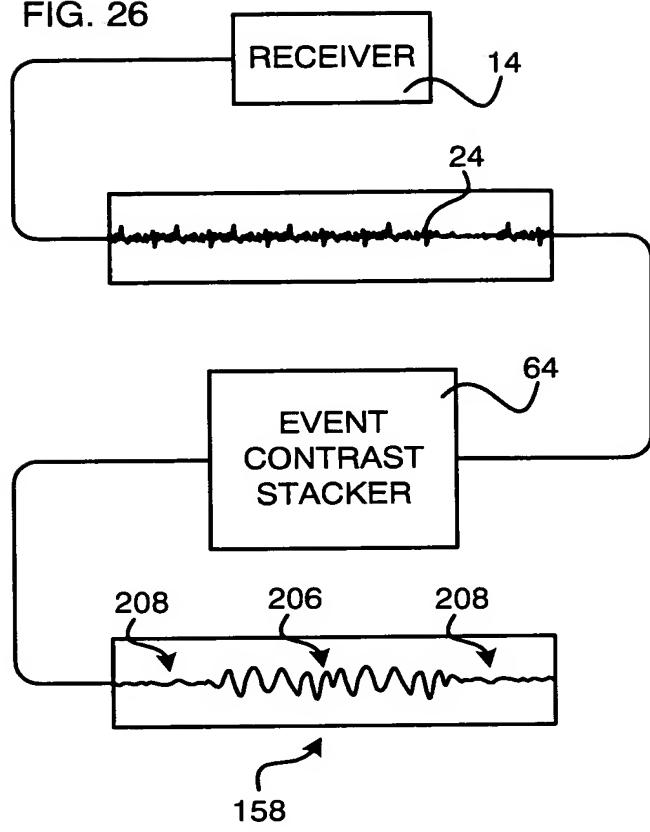


FIG. 27

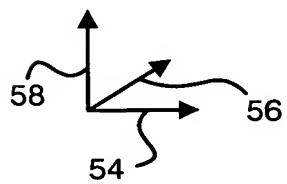
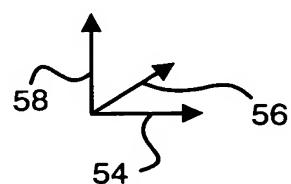


FIG. 28



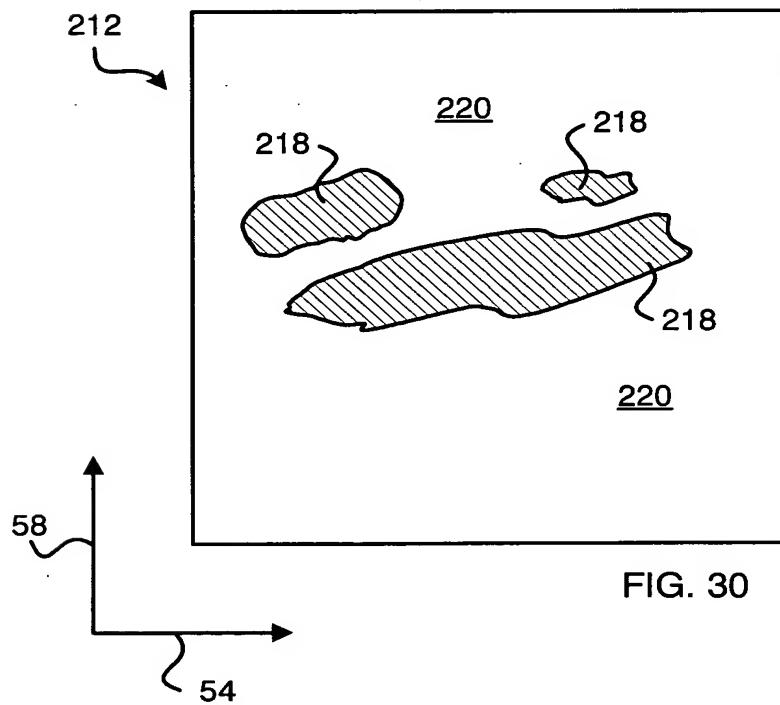
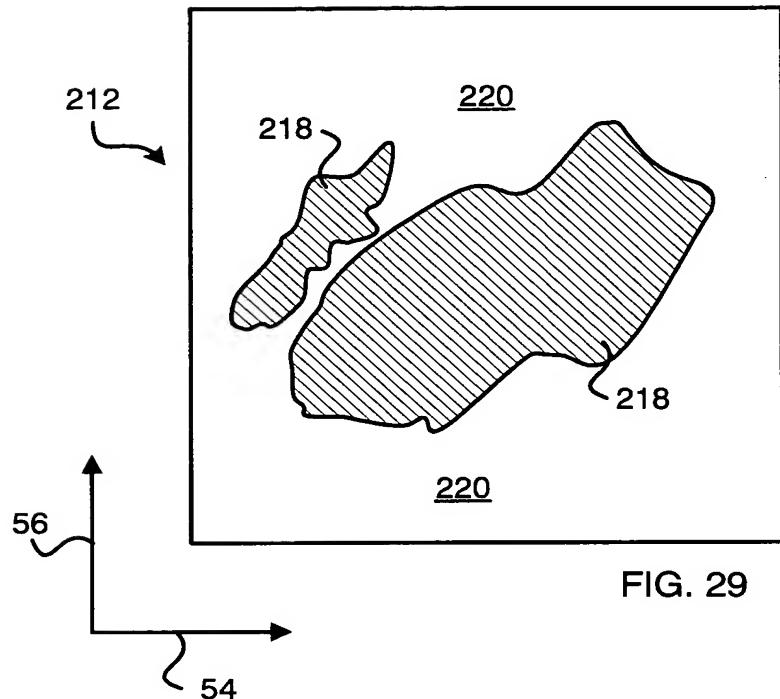


FIG. 31

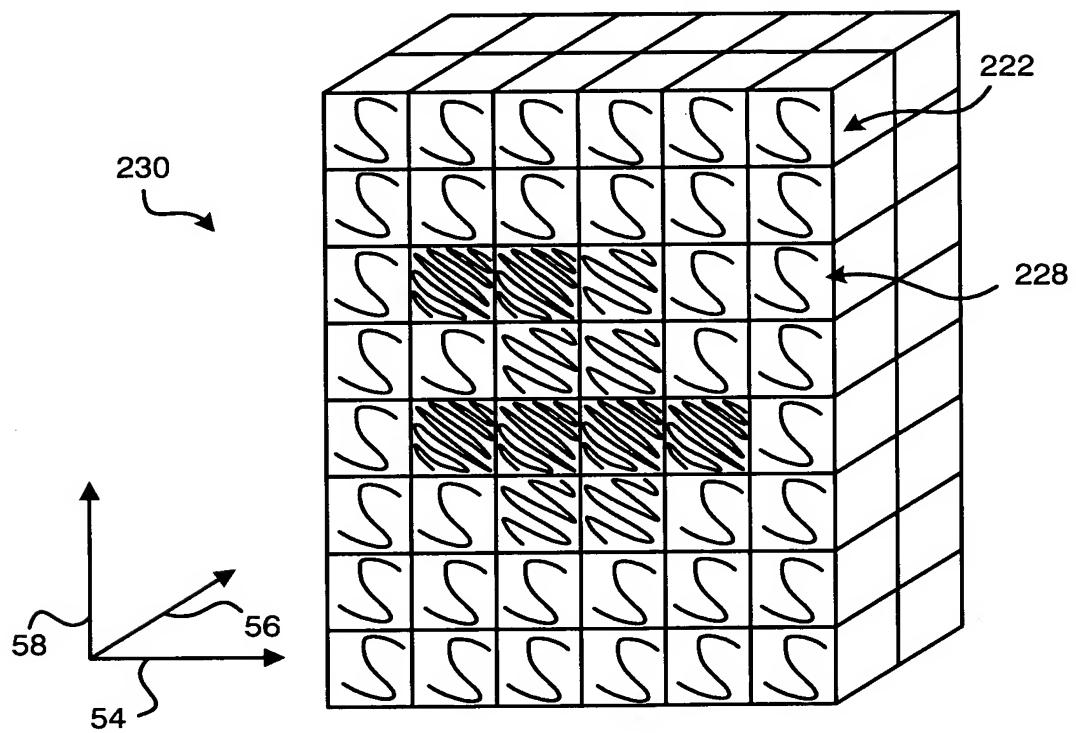
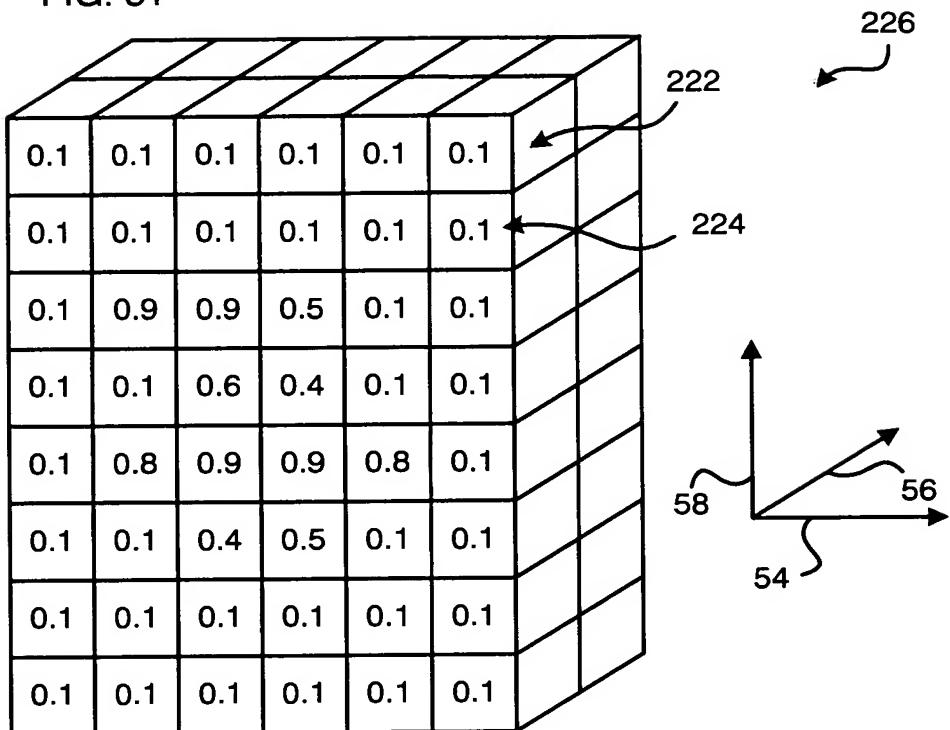


FIG. 32

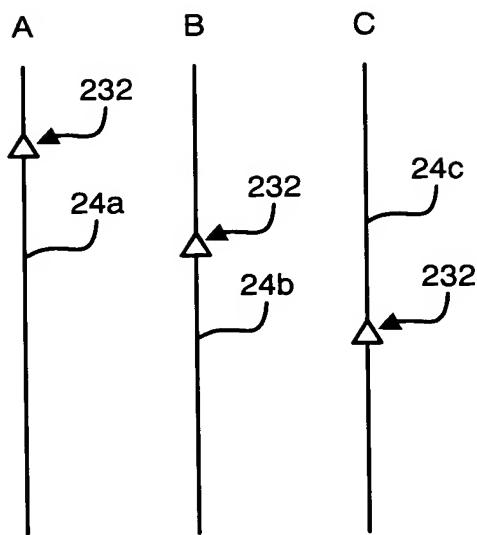


FIG. 33

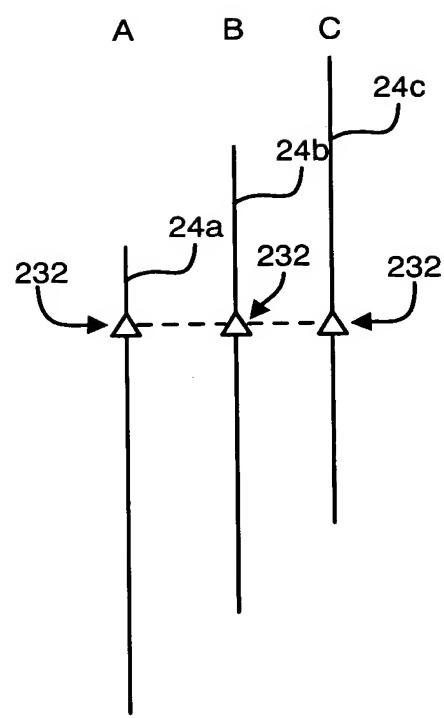


FIG. 34

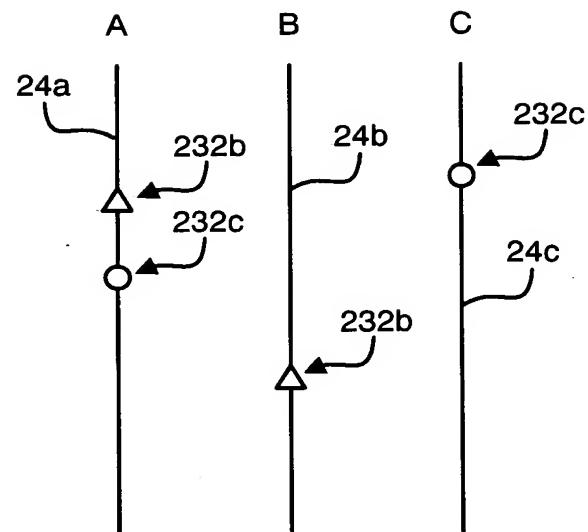


FIG. 35

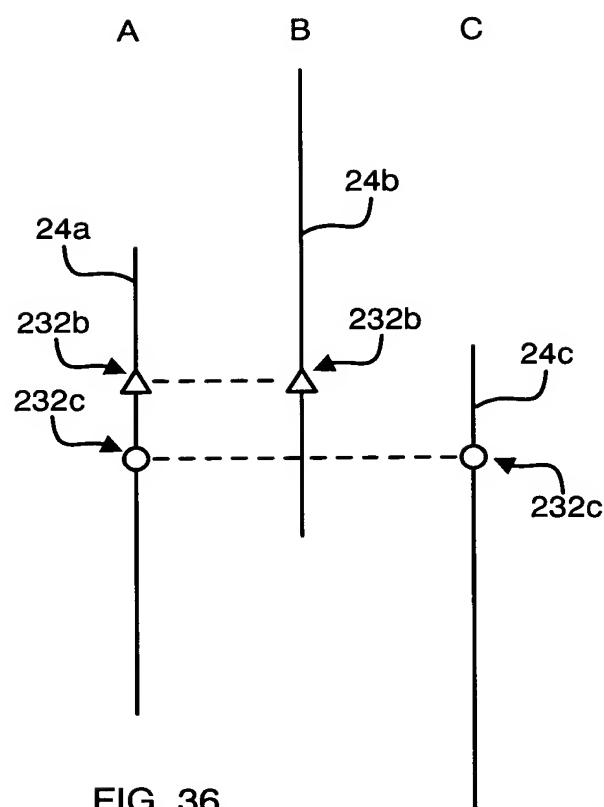


FIG. 36

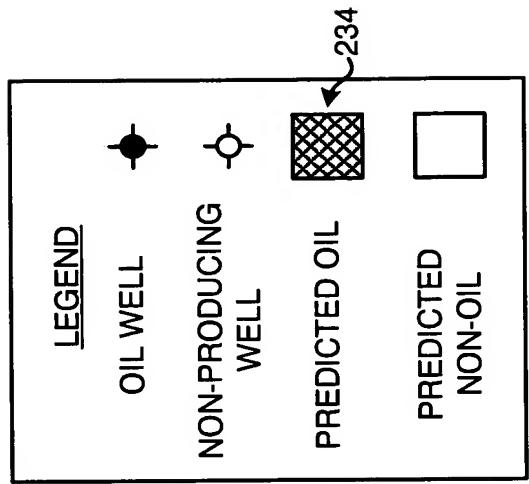
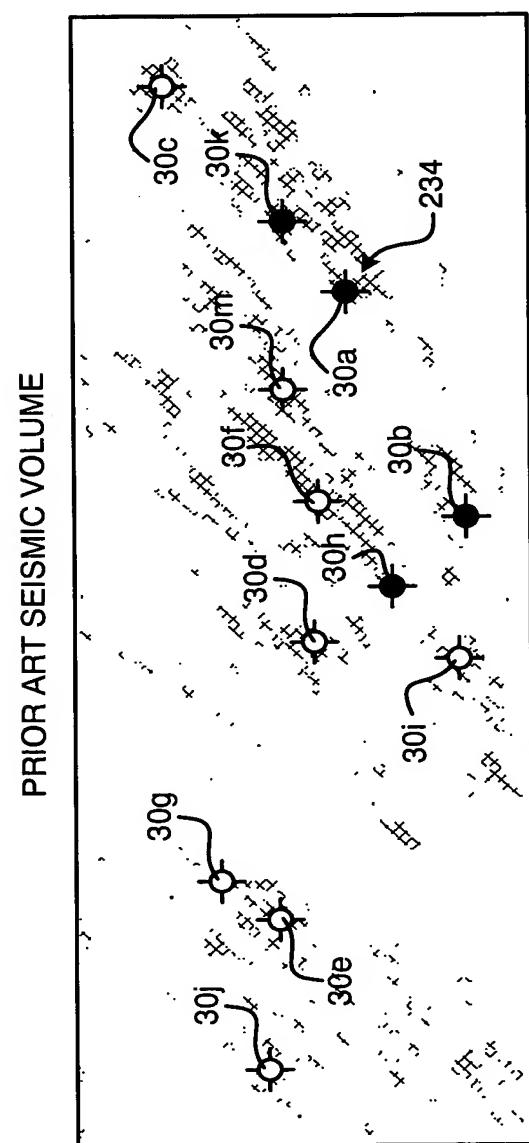
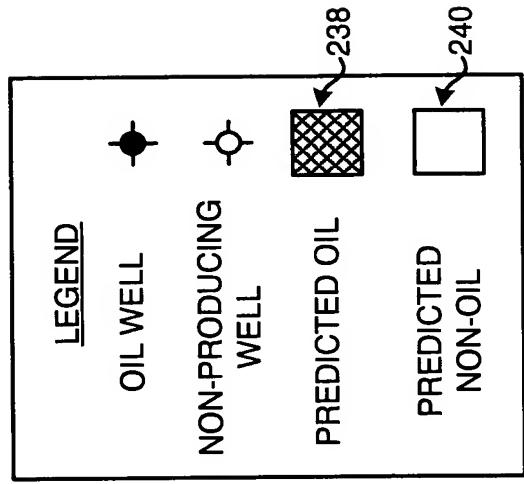


FIG. 37



PRIOR ART SEISMIC VOLUME



CONTRAST SEISMIC VOLUME

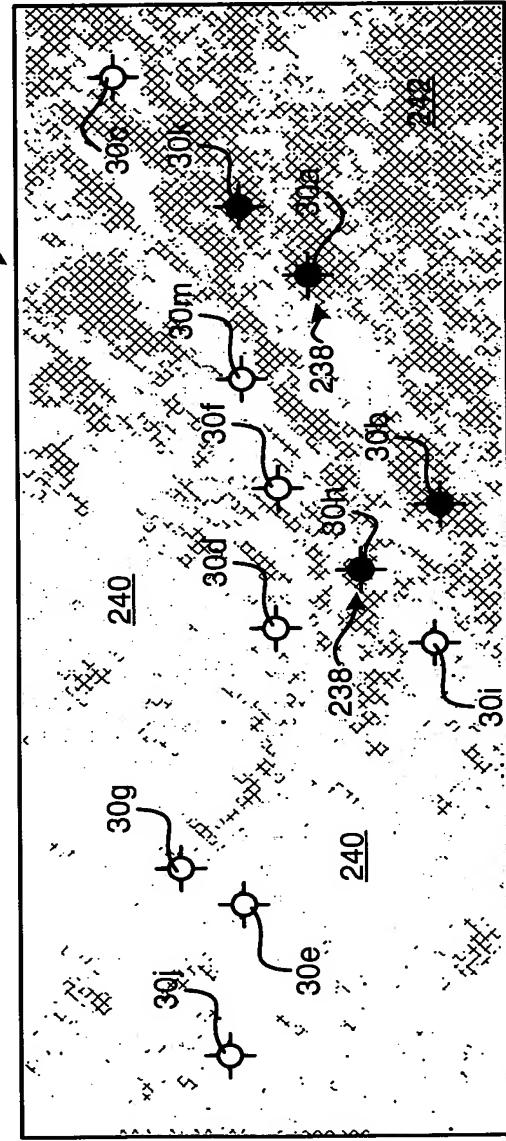


FIG. 38

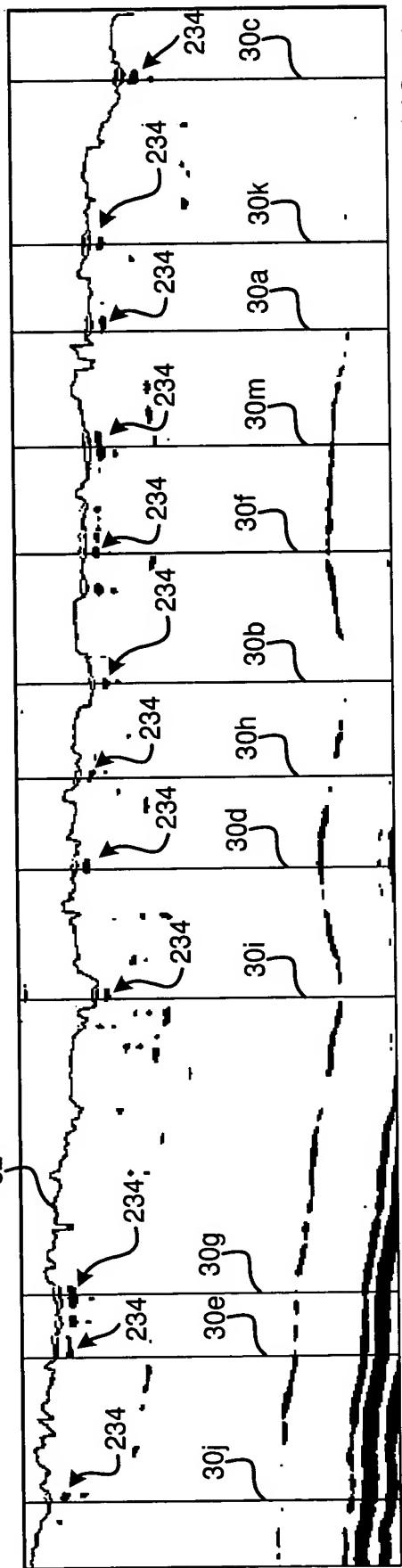
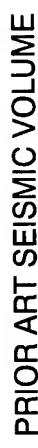


FIG. 39

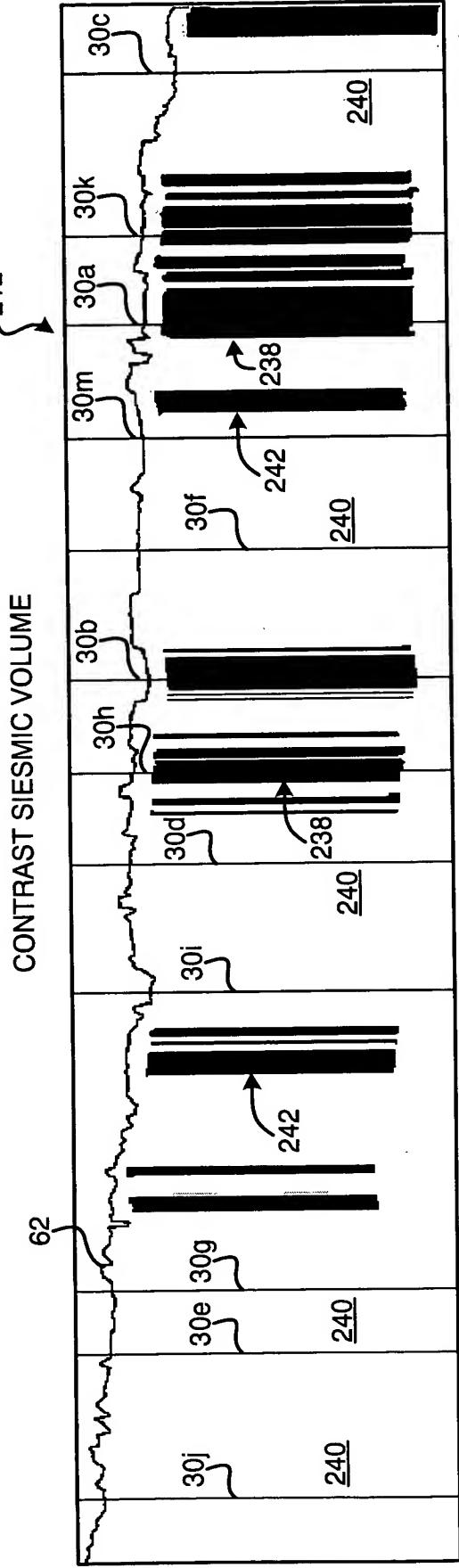


FIG. 40

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WELL	STATE	TIME	TRACES	USE
30a	1	0.976 - 1.176	169	CLASSIFY
30b	2	0.964 - 1.164	167	LEARN
30c	3	0.990 - 1.190	158	LEARN
30d	4	0.944 - 1.144	177	CLASSIFY
30e	5	0.926 - 1.126	154	LEARN
30f	6	0.960 - 1.160	171	CLASSIFY
30g	7	0.924 - 1.124	159	CLASSIFY
30h	8	0.950 - 1.150	163	CLASSIFY
30i	9	0.958 - 1.158	165	CLASSIFY
30j	10	0.920 - 1.120	163	CLASSIFY
30k	11	0.972 - 1.172	155	CLASSIFY
30m	12	0.966 - 1.166	170	CLASSIFY

FIG. 41

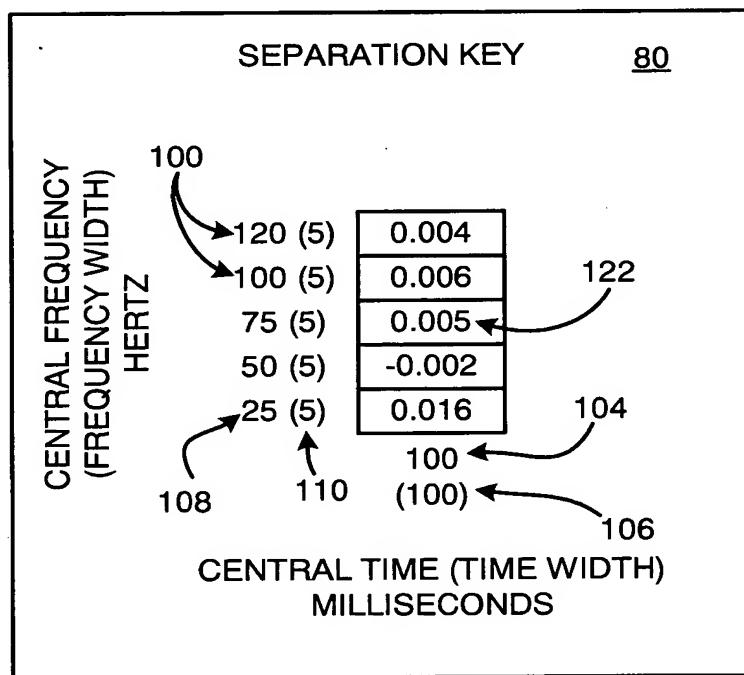


FIG. 42

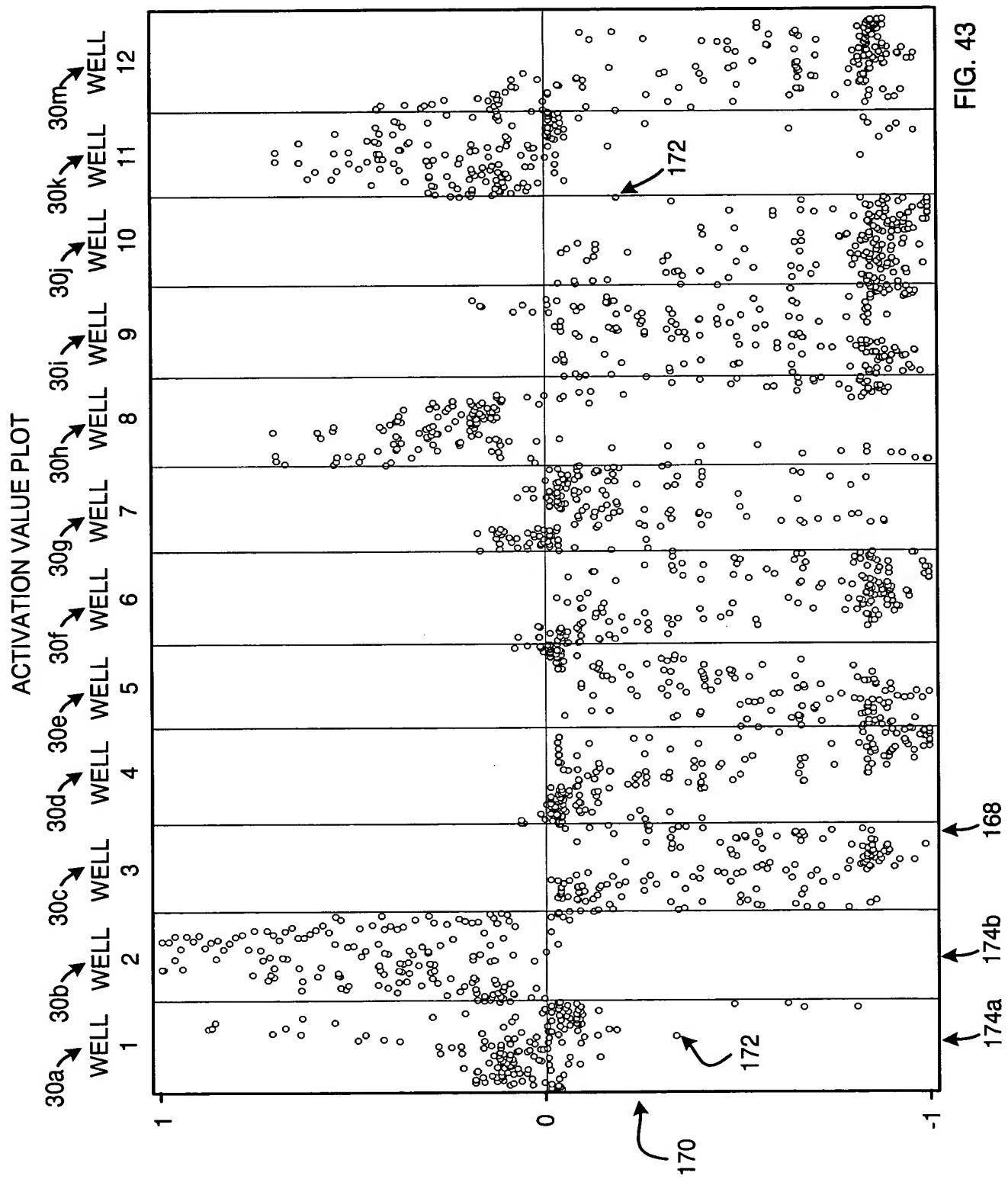


FIG. 43

WELL	STATE	TIME	TRACES	USE
30a	1	0.75 - 0.95	481	LEARN
30b	2	0.75 - 0.95	606	LEARN
30c	3	0.75 - 0.95	441	CLASSIFY
30d	4	0.75 - 0.95	431	CLASSIFY
30e	5	0.75 - 0.95	483	CLASSIFY

FIG. 44

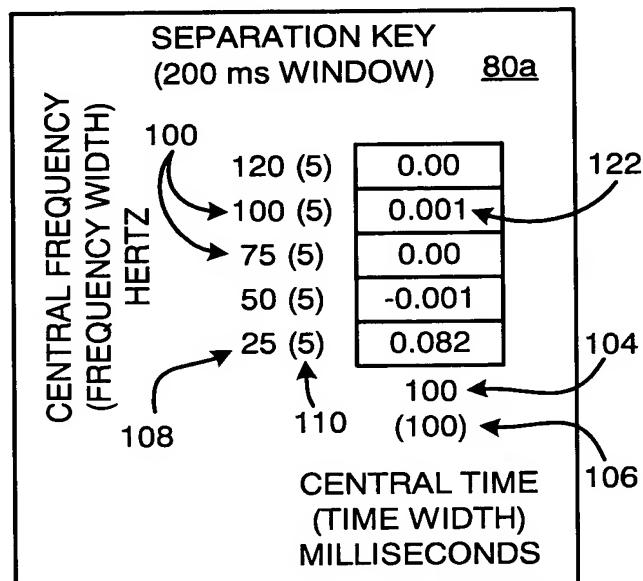


FIG. 45

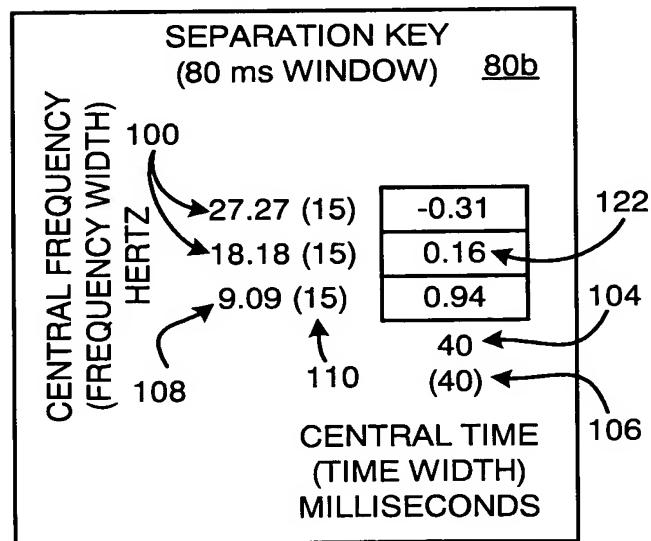


FIG. 46

FIG. 47

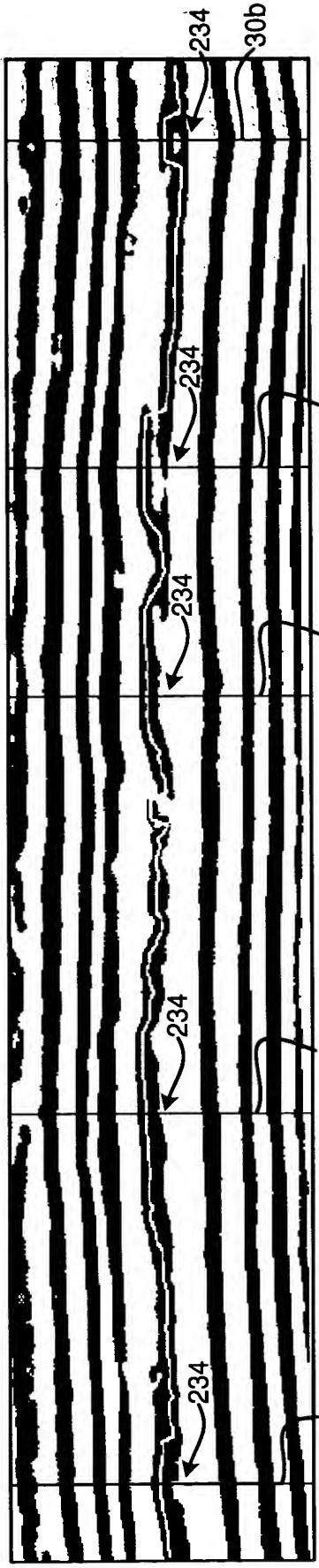


FIG. 48

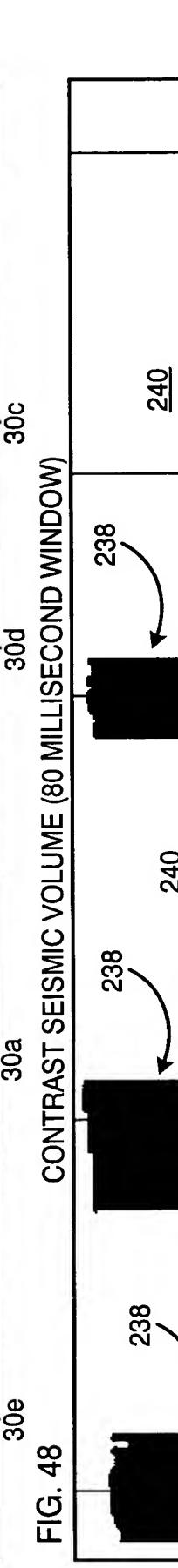
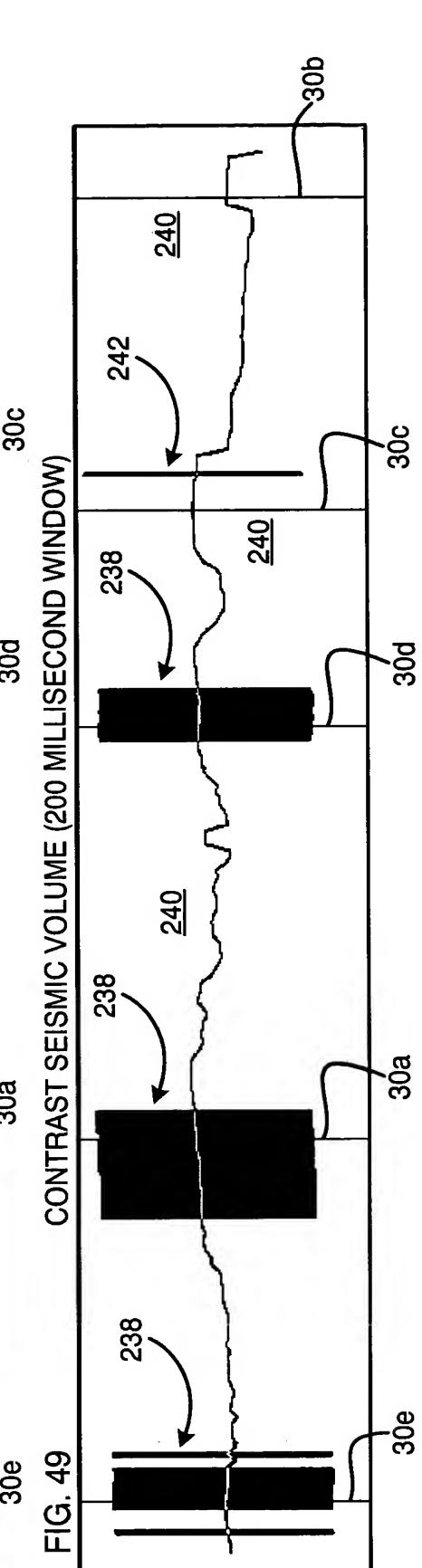


FIG. 49



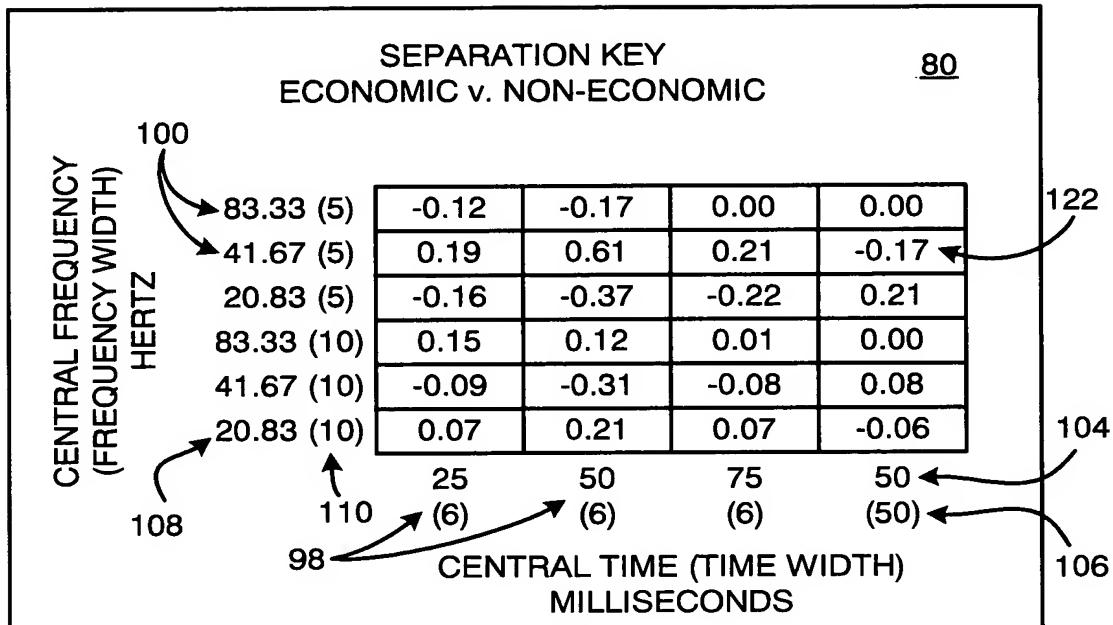


FIG. 50

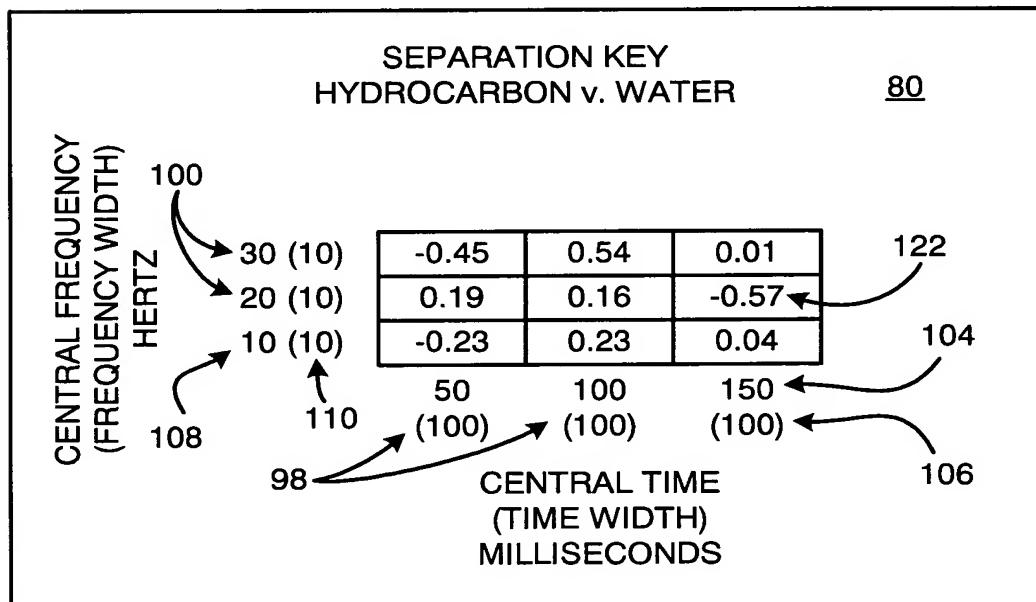


FIG. 51